

Finding the right solution for your Windows® Terminal Server

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1. The Need

The Microsoft® Terminal Server operating system is a highly effective way to disperse applications and manage them from a central location. This avoids and minimizes the expense of installing software on desktop computers in every location to run sophisticated applications. These remote clients can be on the local LAN or across the world on a WAN.

While Terminal Server is stable, it is well known that installing 3rd-party software on a these servers causes memory leaks, and when multiplied across this multi-user operating system, the problem is compounded. In addition, users that do not log off properly often create very large memory dump files, as well as corrupting their profile. The only way to remedy this situation is to do a scheduled restart of the terminal server.

ShutdownPlus TSE, ShutdownPlus Rolling Restart, and ShutdownPlus CR are designed to automate and manage this reboot cycle and properly clean up user sessions for one server or hundreds of servers.

This whitepaper will help you choose which ShutdownPlus product is best for your terminal server farm or single server.

Benefits of Running ShutdownPlus

Besides keeping your server fresh, ShutdownPlus offers these benefits:

ShutdownPlus Terminal Server Edition

- Schedule users to logoff and the server to restart at a defined time
- Schedule logons to be enabled or disabled for maintenance work
- Delete temporary files or temporary Internet files when a user logs off of published desktops
- Stop services in a particular order safely and properly for application servers
- Run any exe, bat, vbs, or cmd program at the end of a Windows session
- Force a logoff after a user is logged in for a period of time
- Logoff after a period of idle time
- Password-protect the settings
- Regular users can only select "Logoff"
- Prevent administrators from accidentally selecting Shutdown or Restart
- Force stubborn programs to end before logging a user off
- Display a message when the user logs off to remind them to do something
- Allow a user them to cancel the scheduled logoff
- Notifications are sent out to each user that the server will be restarting
- Deletes orphaned client printers automatically
- Deletes unused spooler files

ShutdownPlus Rolling Restart

- Select one server as the "master" and other servers as "member" servers (the master restarts the members)
- Choose which servers to restart
- Each server will restart, in succession one at a time, when all users are logged off of that particular server.
- Users can be forced to logoff immediately or after a defined time
- Notifications are sent out to each user that the server will be restarting
- Servers can be restarted every defined number of days

ShutdownPlus CR

- Schedule users to logoff and the server to restart at a defined time
- Schedule logons to be enabled or disabled for maintenance work
- Notify users twice before the server restarts (once at a defined time and 30 seconds before the server restarts)
- Notify users twice before users are logged off (once at a defined time and 30 seconds before they are logged off)

2. Deciding which ShutdownPlus Product to Install

ShutdownPlus TSE

Environment: Typically used in environments where an administrator wants to save user documents, to have a definitive schedule of user logoffs and a server restart with multiple notifications, and run programs when users logoff and/or before the server restarts. Very good for deleting temporary files and temporary Internet files at logoff to keep the user's profile and the server clean. There are also session idle logoffs and idle session locking.

Farm size: 1-any

ShutdownPlus Rolling Restart

Environment: Typically used in a homogeneous environment where users log into any one of a number of servers; in critical operations where the users cannot be forced to logoff; where it doesn't matter if a server is restarted during peak hours as long as no users are logged on; where in a small farm disabling logons on a server during peak hours does not cause overloading of other servers. This product is for administrators that want to restart their servers on a round-robin basis. A common configuration is a load-balanced farm of multiple servers running the same application(s). This product works by assigning one server the master and other servers as member servers. The master goes through and restarts the member servers, disabling logons

before restarting. After the server restarts, logons are re-enabled and the master moves on to the next server.

Farm size: 1-any, 4+ recommended

ShutdownPlus CR

Environment: Used in an environment where administrators want a definitive schedule of when user logoffs occur and a server restart takes place. Users receive two notifications before logoff and restart. Basically, this product is ShutdownPlus TSE's scheduling portion.

Farm size: 1-any

4. Other Solutions

1. The manual way to accomplish part of what ShutdownPlus does is to have your staff go to each computer or shadow the session and delete each user's temp files, temporary internet files, save their documents, then log each user off. But, the users don't get the benefits of all the options in ShutdownPlus. Then, the staff needs to logon to the server console and restart the server.
2. We have seen businesses try to implement their own automated restart process by using shutdown.exe that is in the resource kit. However, in the cases we have consulted on, the servers start to get slower and "mysterious" problems occur. In fact, **Microsoft does not recommend using shutdown.exe to restart a terminal server**, either through a batch file, scheduled through the Task Scheduler, or when it is run manually. There are numerous problems that will happen using this method because of the lack of internal calls shutdown.exe uses in restarting the server. According to Microsoft, the shutdown.exe file was never intended to restart a Citrix/Terminal server.
3. Still thinking about using shutdown.exe to restart your server? Think about these issues:
 - Users are not logged off properly
 - Sessions are not communicate with in order to close them down properly
 - There are no user notifications of an impending logoff and/or restart
 - There is no flexible scheduling compared with ShutdownPlus
 - It can cause corrupted user profiles and bloated registries (which cause the server to lockup!) because the session isn't ended properly
 - Registries can become corrupt on the server, causing a rebuild of the server
 - shutdown.exe was never designed to restart a Citrix/Terminal server
 - the Citrix/Terminal Server can have internal problems when shutdown.exe begins to restart
4. Citrix® MetaFrame® XPe comes with a built-in restart option. ShutdownPlus has options for notifying users, managing schedules, gracefully closing down sessions, cleaning up user sessions of temporary files, and dozens of other options.

Of course, we recommend using one of our ShutdownPlus products (ShutdownPlus TSE, Rolling Restart, or CR) to safely and consistently restart your terminal servers on an automated basis. Being a Citrix Business Alliance™ member and a Certified Microsoft Partner™, we have the proper hooks and internal methods for reliably and automatically restarting your terminal servers without any after-effects, all at a cost-effective price.

5. Conclusion

ShutdownPlus cleans up user environments, provide automatic restarting of terminal servers, and makes sure that your servers are running in top form. If you have further questions, please contact us.

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